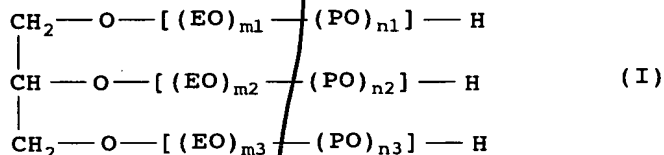


CLAIMS

1. An ink composition for ink jet recording, comprising a compound represented by formula (I)



wherein

EO represents an ethyleneoxy group;

PO represents a propyleneoxy group;

$m1$, $m2$, $m3$, $n1$, $n2$, and $n3$ each are independently 0 (zero) or a natural number of not less than 1;

EO and PO may be arranged, regardless of order in the parentheses [], randomly or as blocks joined together; and

$m1 + m2 + m3 + n1 + n2 + n3$ is in the range of 0.5 to 10 in terms of number average of a mixture of compounds represented by formula (I), and a colorant, provided that

when, in formula (I), all of $n1$, $n2$, and $n3$ are zero, said ink composition further comprises glycerin.

2. The ink composition according to claim 1, which, when none of $n1$, $n2$, and $n3$ in formula (I) are zero, further comprises glycerin.

3. The ink composition according to claim 1 or 2, wherein the colorant comprises a water-soluble dye and/or a pigment.

4. The ink composition according to claim 3, wherein the pigment is a surface treated pigment which has a dispersing group on its surface and is dispersible in an aqueous solvent without any dispersant.

5. The ink composition according to any one of claims 1 to 4, wherein the compound represented by formula (I) is a mixture of at least two or more compounds selected from the group consisting of the

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compounds represented by formula (I).

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6. The ink composition according to any one of claims 1 to 5, wherein the compound represented by formula (I) has an average molecular weight of not more than 1000.

7. The ink composition according to any one of claims 1 to 6, wherein the ink composition has a surface tension of not more than 40 mN/m.

8. The ink composition according to claim 7, which further comprises a 1,2-alkylene glycol in which the alkylene group may be branched.

9. The ink composition according to claim 8, wherein, when the amount of 1,2-alkylene glycol added is not less than 3% by weight, the amount of the compound represented by formula (I) added is at least 2% by weight.

10. The ink composition according to claim 9, wherein the alkylene group of 1,2-alkylene glycol has 4 to 10 carbon atoms.

11. The ink composition according to claim 10, wherein the 1,2-alkylene glycol is 0.5 to 20% by weight of 1,2-pentanediol, 0.3 to 15% by weight of 1,2-hexanediol, or a mixture of said 1,2-alkylene glycols.

12. The ink composition according to any one of claims 8 to 11, which further comprises 0 to 10% by weight of (di)propylene glycol monobutyl ether and the weight ratio of the 1,2-alkylene glycol to (di)propylene glycol monobutyl ether is 1 : 0 to 1 : 10.

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13. The ink composition according to any one of claims 8 to 11, which further comprises 0 to 5% by weight of an acetylene glycol surfactant and the weight ratio of the 1,2-alkylene glycol to the acetylene glycol surfactant is 1 : 0 to 1 : 3.

14. The ink composition according to any one of claims 8 to 11, which further comprises 0 to 20% by weight of di(tri)ethylene glycol monobutyl ether and the weight ratio of the 1,2-alkylene glycol to the

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di(tri)ethylene glycol monobutyl ether is 1 : 0 to 1 : 10.

15. An ink set for ink jet recording, comprising at least two ink compositions according to any one of claims 1 to 14, characterized in that

said ink set satisfies a relationship represented by formula (a) at least at 20°C:

$$((\mu_{\max} - \mu_{\min})/\mu_{\max}) \times 100 \leq 5 (\%) \quad (a)$$

wherein μ_{\max} represents the maximum viscosity value in the ink compositions contained in the ink set; and μ_{\min} represents the minimum viscosity value in the ink compositions contained in the ink set.

16. The ink set according to claim 15, which always satisfies the relationship represented by formula (a) at 15 to 45°C.

17. The ink set according to claim 15 or 16, wherein said at least two ink compositions are identical to each other in color but different from each other in color density.

18. The ink set according to any one of claims 15 to 17, wherein the colorant contained in each of the ink compositions is a pigment and the viscosities of the ink compositions as measured with a rotating viscometer at a torque of 1 mN·m to 100 N·m satisfy the relationship represented by formula (a).

19. The ink set according to any one of claims 15 to 18, wherein at least one of the ink compositions has a colorant content of not less than 5% by weight.

20. An ink jet recording method comprising the steps of: ejecting droplets of an ink composition; and depositing the droplets onto a recording medium to perform printing, the ink composition being an ink composition in the ink set according to any one of claims 15 to 19.

21. A record produced by the method according to claim 20.

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